**- REPEALED Effective 11-17-99 -**
***(Being replaced by R590-198)***

**R590-179. Valuation of Life Insurance Policies Rule.**
**R590-179-1. Purpose.**

A. The purpose of this rule is to provide:

(1) tables of select mortality factors and rules for their use;

(2) a minimum standard for the valuation of plans with non-level premiums or benefits; and

(3) a minimum standard for the valuation of plans with secondary guarantees.

B. The method for calculating basic reserves defined in this rule will constitute the Commissioners' Reserve Valuation Method for policies to which this rule is applicable.

**R5980-179-2. Authority.**

This rule is issued under the authority of Sections 31A-17-402 and 31A-17-512.

**R590-179-3. Applicability.**

This rule is applicable beginning January 1 of the calendar year immediately following the adoption of substantially similar requirements by states with an aggregate population of at least 51% of the total population of the United States of America, according to the most recent General Federal Census.

This rule shall apply to all life insurance policies, with or without nonforfeiture values, issued on or after the effective date of this rule, subject to the following exceptions and conditions.

A. Exceptions.

(1) This rule does not apply to any individual life insurance policy issued on or after the effective date of this rule if the policy is issued in accordance with and as a result of the exercise of a reentry provision contained in the original life insurance policy of the same or greater face amount, issued before the effective date of this rule, that guarantees the premium rates of the new policy. This rule also may not apply to subsequent policies issued as a result of the exercise of such a provision, or a derivation of the provision, in the new policy.

(2) This rule does not apply to any variable life insurance policy that provides for life insurance, the amount or duration of which varies according to the investment experience of any separate account or accounts.

(3) This rule does not apply to any variable universal life insurance policy that provides for life insurance, the amount or duration of which varies according to the investment experience of any separate account or accounts.

(4) This rule does not apply to group life insurance certificates unless the certificates provide for a stated or implied schedule of maximum gross premiums required in order to continue coverage in force for a period in excess of one year.

B. Conditions.

(1) Calculation of the minimum valuation standard for policies with guaranteed non-level premiums or guaranteed non-level benefits, other than universal life policies, or both, shall be in accordance with the provisions of Subsection 6.

(2) Calculation of the minimum valuation standard for flexible premium and fixed premium universal life insurance policies, that contain provisions resulting in the ability of a policyholder to keep a policy in force over a secondary guarantee period of more than five-years, shall be in accordance with the provisions of

Section 7.

**R590-179-4. Definitions.**

For purposes of this rule:

A. "Basic reserves" means reserves calculated in accordance with the principles of Section 31A-17-504.

B. "Contract segmentation method" means the method of dividing the period from issue to mandatory expiration of a policy into successive segments, with the length of each segment being defined as the period from the end of the prior segment, from policy inception, for the first segment, to the end of the latest policy year as determined below. All calculations are made using the 1980 CSO valuation tables, as defined in Subsection E of this section, or any other valuation mortality table adopted by the National Association of Insurance Commissioners (NAIC) after the effective date of this rule and promulgated by rule by the commissioner for this purpose, and, if elected, the optional minimum mortality standard for deficiency reserves stipulated in Subsection 5B of this rule.

The length of a particular contract segment shall be set equal to the minimum of the value t for which $G_t$ is greater than $R_t$, if $G_t$ never exceeds $R_t$ the segment length is deemed to be the number of years from the beginning of the segment to the mandatory expiration date of the policy, where $G_t$ and $R_t$ are defined as follows:

$G_t = Gp_{x+k+t} / Gp_{x+k+t-1}$

where:

x = original issue age;

k = the number of years from the date of issue to the beginning of the segment;

t = 1, 2, ...; t is reset to 1 at the beginning of each segment;

$Gp_{x+k+t-1}$ = Guaranteed gross premium per thousand of face amount, ignoring policy fees only if level for the premium paying period of the policy, for year t of the segment.

$Rt = q_{x+k+t} / q_{x+k+t-1}$, However, $R_t$ may be increased or decreased by 1% in any policy year, at the company's option, but $R_t$ may not be less than one;

where:

x, k and t are as defined above, and

$q_{x+k+t-1}$ = valuation mortality rate for deficiency reserves in policy year k+t.

C. "Deficiency reserves" means the excess, if greater than zero, of

(1) minimum reserves calculated in accordance with the principles of Section 31A-17-507 over

(2) basic reserves.

D. "Maximum valuation interest rates" means the interest rates defined in Section 31A-17-506, Computation of Minimum Standard by Calendar Year of Issue, that are to be used in determining the minimum standard for the valuation of life insurance policies.

E. "1980 CSO valuation tables" means the Commissioners' 1980 Standard Ordinary Mortality Table, 1980 CSO Table, without ten-year selection factors, incorporated into the 1980 amendments to the NAIC Standard Valuation Law, and variations of the 1980 CSO Table approved by the NAIC, such as the smoker and nonsmoker versions approved in December 1983.

F. "Scheduled gross premium" means the smallest illustrated gross premium at issue for other than universal life insurance policies. For universal life insurance policies, scheduled gross premium means the smallest specified premium described in Subsection 7A(3), if any, or else the minimum premium described in Subsection 7A(4).

G.(1) "Segmented reserves" means reserves, calculated using segments produced by the contract segmentation method, equal to the present value of all future guaranteed benefits less the present value of all future net premiums to the mandatory expiration of a policy, where the net premiums within each segment are a uniform percentage of the respective gross premiums within the segment. The uniform percentage for each segment is such that, at the beginning of the segment, the present value of the net premiums within the segment equals:

(a) the present value of the death benefits within the segment, plus

(b) the present value of any unusual guaranteed cash value, see Subsection 6D, occurring at the end of the segment, less

(c) any unusual guaranteed cash value occurring at the start of the segment, plus

(d) for the first segment only, the excess of the Item (i) over Item (ii), as follows:

(i) A net level annual premium equal to the present value, at the date of issue, of the benefits provided for in the first segment after the first policy year, divided by the present value, at the date of issue, of an annuity of one per year payable on the first and each subsequent anniversary within the first segment on which a premium falls due. However, the net level annual premium may not exceed the net level annual premium on the 19-year premium whole life plan of insurance of the same renewal year equivalent level amount at an age one-year higher than the age at issue of the policy.

(ii) A net one-year term premium for the benefits provided for in the first policy year.

(2) The length of each segment is determined by the "contract segmentation method," as defined in this section.

(3) The interest rates used in the present value calculations for any policy may not exceed the maximum valuation interest rate, determined with a guarantee duration equal to the sum of the lengths of all segments of the policy.

(4) For both basic reserves and deficiency reserves computed by the segmented method, present values must include future benefits and net premiums in the current segment and in all subsequent segments.

H. "Tabular cost of insurance" means the net single premium at the beginning of a policy year for one-year term insurance in the amount of the guaranteed death benefit in that policy year.

I. "Ten-year select factors" means the select factors adopted with the 1980 amendments to the NAIC Standard Valuation Law.

J.(1) "Unitary reserves" means the present value of all future guaranteed benefits less the present value of all future modified net premiums, where:

(a) guaranteed benefits and modified net premiums are considered to the mandatory expiration of the policy; and

(b) modified net premiums are a uniform percentage of the respective guaranteed gross premiums, where the uniform percentage is such that, at issue, the present value of the net premiums equals the present value of all death benefits and pure endowments, plus the excess of Item (i) over Item (ii), as follows:

(i) A net level annual premium equal to the present value, at the date of issue, of the benefits provided for after the first policy year, divided by the present value, at the date of issue, of an annuity of one per year payable on the first and each subsequent anniversary of the policy on which a premium falls due. However, the net level annual premium may not exceed the net level annual premium on the 19-year premium whole life plan of insurance of the same renewal year equivalent level amount at an age one-year higher than the age at issue of the policy.

(ii) A net one-year term premium for the benefits provided for in the first policy year.

(2) The interest rates used in the present value calculations for any policy may not exceed the maximum valuation interest rate, determined with a guarantee duration equal to the length from issue to the mandatory expiration of the policy.

K. "Universal life insurance policy" means any individual life insurance policy under the provisions of which separately identified interest credits,other than in connection with dividend accumulations, premium deposit funds, or other supplementary accounts, and mortality or expense charges are made to the policy.

**R590-179-5. General Calculation Requirements for Basic Reserves and Premium Deficiency Reserves.**

A. At the election of the company for any one or more specified plans of life insurance, the minimum mortality standard for basic reserves may be calculated using the 1980 CSO valuation tables with select mortality factors. If select mortality factors are elected, they may be:

(1) the ten-year select mortality factors incorporated into the 1980 amendments to the NAIC Standard Valuation Law (see Rule R590-95);

(2) 150% of the base select mortality factors that are included in the appendix to the National Association of Insurance Commissioner's (NAIC) Valuation of Life Insurance Policies Model Regulation (April 1995) which is incorporated by reference;

(3) 150% of the base select mortality factors in the NAIC Appendix referred to in Subsection R590-179-5A.(2) for the first ten policy years; then linearly graded from the resulting tenth year factor to 100% at policy year 16; or

(4) Any other table of select mortality factors adopted by the NAIC after the effective date of this rule and promulgated by rule by the commissioner for the purpose of calculating basic reserves.

B.(1) Deficiency reserves, if any, are calculated for each policy as the excess, if greater than zero, of the quantity A over the basic reserve. The quantity A is obtained by recalculating the basic reserve for the policy using guaranteed gross premiums instead of net premiums when the guaranteed gross premiums are less than the corresponding net premiums. At the election of the company for any one or more specified plans of insurance, the quantity A and the corresponding net premiums used in the determination of quantity A may be based upon the 1980 CSO valuation tables with select mortality factors, or any other valuation mortality table adopted by the NAIC after the effective date of this rule and promulgated by rule by the commissioner. If select mortality factors are elected, they may be:

(a) the ten-year select mortality factors incorporated into the 1980 amendments to the NAIC Standard Valuation Law;

(b) 120% of the base select mortality factors that are included in the appendix to the National Association of Insurance Commissioner's (NAIC) Valuation of Life Insurance Policies Model Regulation (April 1995) which is incorporated by reference;

(c) 120% of the base select mortality factors in the NAIC appendix referred to in

Subsection R590-179-5B.(b) for the first ten policy years; then linearly graded from the resulting tenth year factor to 100% at policy year 16; or

(d) any other table of select mortality factors adopted by the NAIC after the effective date of this rule and promulgated by rule by the commissioner for the purpose of calculating deficiency reserves.

(2) Notwithstanding the above, if the length of the first segment as determined by the contract segmentation method for the basic reserves is not greater than five-years, safe harbor, then for that length of time measured from issue, for either the unitary method or the contract segmentation method, gross premiums need not be substituted for net premiums even if the gross premiums are less than the net premiums. For subsequent periods, gross premiums must be substituted for net premiums if the gross premiums are less than the corresponding net premiums.

(3) For any policies for which the company chooses to use the "safe harbor," the company must demonstrate annually to the satisfaction of the commissioner, by submitting a statement of actuarial opinion signed by the appointed actuary, that the reserves held for all such policies are adequate.

C. In applying percentages to the base select mortality factors:

(1) do not round any result; and

(2) set equal to 100 any result that exceeds 100.

D. This subsection applies to both basic reserves and deficiency reserves. Any set of base select mortality factors may be used only for the first segment. However, if the first segment is less than ten-years, the appropriate ten-year select mortality factors may be used thereafter through the tenth policy year from the date of issue.

E. In determining basic reserves or deficiency reserves, gross premiums without policy fees may be used where the calculation involves the gross premium but only if the policy fee is a level dollar amount for the entire premium-paying period of the policy. In determining deficiency reserves, policy fees may be included in gross premiums even if not included in the actual calculation of basic reserves.

**R590-179-6. Calculation of Minimum Valuation Standard for Policies with Guaranteed Non-level Premiums or Guaranteed Non-level Benefits, Other than Universal Life Policies.**

A. Basic Reserves.

Basic reserves shall be calculated as the greater of the segmented reserves and the unitary reserves. Both the segmented reserves and the unitary reserves for any policy must use the same valuation mortality table and selection factors. At the option of the insurer, in calculating segmented reserves and net premiums, either of the adjustments described in Subsection (1) or (2) below may be made:

(1)(a) treat the unitary reserve, if greater than zero, applicable at the end of each segment as a pure endowment; and

(b) subtract the unitary reserve, if greater than zero, applicable at the beginning of each segment from the present value of guaranteed life insurance and endowment benefits for each segment.

(2)(a) Treat the guaranteed cash surrender value, if greater than zero, applicable at the end of each segment as a pure endowment; and

(b) Subtract the guaranteed cash surrender value, if greater than zero, applicable at the beginning of each segment from the present value of guaranteed life insurance and endowment benefits for each segment.

B. Deficiency Reserves.

(1) The deficiency reserve at any duration shall be calculated:

(a) on a unitary basis if the corresponding basic reserve determined by Subsection A is unitary;

(b) on a segmented basis if the corresponding basic reserve determined by Subsection A is segmented; or

(c) on the segmented basis if the corresponding basic reserve determined by Subsection A is equal to both the segmented reserve and the unitary reserve.

(2) This subsection shall apply to any policy for which the guaranteed gross premium at any duration is less than the corresponding modified net premium calculated by the method used in determining the basic reserves, but using the minimum valuation standards of mortality, specified in Subsection 5B, and rate of interest.

(3) Deficiency reserves, if any, shall be calculated for each policy as the excess if greater than zero, for the current and all remaining periods, of the quantity A over the basic reserve, where A is obtained as indicated in Subsection 5B.

(4) For deficiency reserves determined on a segmented basis, the quantity A is determined using segment lengths equal to those determined for segmented basic reserves.

C. Minimum Value.

Basic reserves may not be less than the tabular cost of insurance for the balance of the policy year, if mean reserves are used. Basic reserves may not be less than the tabular cost of insurance for the balance of the current modal period or to the paid-to-date, if later, but not beyond the next policy anniversary, if mid-terminal reserves are used. The tabular cost of insurance must use the same valuation mortality table, select mortality factor and interest rates as that used for the calculation of both the segmented and the unitary reserves. In no case may total reserves, including basic reserves, deficiency reserves and any reserves held for supplemental benefits that would expire upon contract termination, be less than the amount that the policyowner would receive, including the cash surrender value of the supplemental benefits, if any, referred to above, exclusive of any deduction for policy loans, upon termination of the policy.

D. Unusual Pattern of Guaranteed Cash Surrender Values.

(1) For any policy with an unusual pattern of guaranteed cash surrender values, the reserves actually held prior to the first unusual guaranteed cash surrender value may not be less than the reserves calculated by treating the first unusual guaranteed cash surrender value as a pure endowment and treating the policy as an n year policy providing term insurance plus a pure endowment equal to the unusual cash surrender value, where n is the number of years from the date of issue to the date the unusual cash surrender value is scheduled.

(2) The reserves actually held subsequent to any unusual guaranteed cash surrender value may not be less than the reserves calculated by treating the policy as an n year policy providing term insurance plus a pure endowment equal to the next unusual guaranteed cash surrender value, and treating any unusual guaranteed cash surrender value at the end of the prior segment as a net single premium, where

(a) n is the number of years from the date of the last unusual guaranteed cash surrender value prior to the valuation date to the earlier of:

(i) the date of the next unusual guaranteed cash surrender value, if any, that is scheduled after the valuation date; or

(ii) the mandatory expiration date of the policy; and

(b) the net premium for a given year during the n year period is equal to the product of the net to gross ratio and the respective gross premium; and

(c) the net to gross ratio is equal to (i) divided by (ii) as follows:

(i) The present value, at the beginning of the n year period, of death benefits payable during the n year period plus the present value, at the beginning of the n year period, of the next unusual guaranteed cash surrender value, if any, minus the amount of the last unusual guaranteed cash surrender value, if any, scheduled at the beginning of the n year period.

(ii) The present value, at the beginning of the n year period, of the scheduled gross premiums payable during the n year period.

(3) For purposes of this Section 6D, a policy is considered to have an unusual pattern of guaranteed cash surrender values if any future guaranteed cash surrender value exceeds the prior year's guaranteed cash surrender value by more than the sum of:

(a) 110% of the scheduled gross premium for that year;

(b) 110% of one year's accrued interest on the sum of the prior year's guaranteed cash surrender value and the scheduled gross premium using the nonforfeiture interest rate used for calculating policy guaranteed cash surrender values; and

(c) 5% of the first policy year surrender charge, if any.

E. Optional Exemption for Yearly Renewable Term Reinsurance (YRT).

At the option of the company, the following approach for reserves on YRT reinsurance may be used:

(1) Calculate the valuation net premium for each future policy year as the tabular cost of insurance for that future year.

(2) Basic reserves shall never be less than the tabular cost of insurance for the appropriate period, as defined in Subsection 6C.

(3) Deficiency reserves.

(a) For each policy year, calculate the excess, if greater than zero, of the valuation net premium over the respective maximum guaranteed gross premium.

(b) Deficiency reserves may never be less than the sum of the present values, at the date of valuation, of the excesses determined in accordance with Subsection (a) above.

(4) For purposes of this Subsection 6E, the calculations use the maximum valuation interest rate and the 1980 CSO mortality tables with or without ten-year select mortality factors, or any other table adopted after the effective date of this rule by the NAIC and promulgated by rule by the commissioner for this purpose.

(5) A reinsurance agreement shall be considered YRT reinsurance for purposes of this subsection if:

(a) the reinsurance premium rates, on both the initial current premium scale and the guaranteed maximum premium scale, for any given year are independent of both the premium rates and the plan of the original policy; and

(b) only the mortality risk is reinsured.

F. Optional Exemption for Attained-Age-Based Yearly Renewable Term Life Insurance Policies.

At the option of the company, the following approach for reserves for attained-age-based YRT life insurance policies may be used:

(1) Calculate the valuation net premium for each future policy year as the tabular cost of insurance for that future year.

(2) Basic reserves may never be less than the tabular cost of insurance for the appropriate period, as defined in Subsection 6C.

(3) Deficiency reserves.

(a) For each policy year, calculate the excess, if greater than zero, of the valuation net premium over the respective maximum guaranteed gross premium.

(b) Deficiency reserves may never be less than the sum of the present values, at the date of valuation, of the excesses determined in accordance with Subsection (a) above.

(4) For purposes of this subsection, the calculations use the maximum valuation interest rate and the 1980 CSO valuation tables with or without ten-year select mortality factors, or any other table adopted after the effective date of this rule by the NAIC and promulgated by rule by the commissioner for this purpose.

(5) A policy shall be considered an attained-age-based YRT life insurance policy for purposes of this subsection if:

(a) the premium rates, on both the initial current premium scale and the guaranteed maximum premium scale, are based upon the attained age of the insured such that the rate for any given policy at a given attained age of the insured is independent of the year the policy was issued; and

(b) the premium rates, on both the initial current premium scale and the guaranteed maximum premium scale, are the same as the premium rates for policies covering all insureds of the same sex, risk class, plan of insurance and attained age.

(6) For policies that become attained-age-based YRT policies after an initial period of coverage, the approach of this subsection may be used after the initial period if:

(a) the initial period is constant for all insureds of the same sex, risk class and plan of insurance; or

(b) the initial period runs to a common attained age for all insureds of the same sex, risk class and plan of insurance; and

(c) after the initial period of coverage, the policy meets the conditions of Subsection (5) above.

(7) If this election is made, this approach must be applied in determining reserves for all attained-age-based YRT life insurance policies issued on or after the effective date of this rule.

G. Exemption from Unitary Reserves for Certain n-Year Renewable Term Life Insurance Polices

Unitary basic reserves and unitary deficiency reserves need not be calculated for a policy if the following conditions are met:

(1) the policy consists of a series of n-year periods, including the first period and all renewal periods, where n is the same for each period, and for each n-year period, the premium rates on both the initial current premium scale and the guaranteed maximum premium scale are level;

(2) the guaranteed gross premiums in all n-year periods are not less than the corresponding net premiums based upon the 1980 CSO Table with or without the ten-year select mortality factors; and

(3) there are no cash surrender value in any policy year.

H. Exemption from Unitary Reserves for Certain Juvenile Policies.

Unitary basic reserves and unitary deficiency reserves need not be calculated for a policy if the following conditions are met, based upon the initial current premium scale at issue:

(1) at issue, the insured is age 24 or younger;

(2) until the insured reaches the end of the juvenile period, which must occur at or before age 25, the gross premiums and death benefits are level, and there

are no cash surrender values; and

(3) after the end of the juvenile period, gross premiums are level for the remainder of the premium paying period, and death benefits are level for the remainder of the life of the policy.

**R590-179-7. Calculation of Minimum Valuation Standard for Flexible Premium and Fixed Premium Universal Life Insurance Policies That Contain Provisions Resulting in the Ability of a Policyowner to Keep a Policy in Force Over a Secondary Guarantee Period of More Than Five Years.**

A. General.

(1) Policies with a secondary guarantee include:

(a) a policy with a guarantee that the policy will remain in force at the original schedule of benefits over a period exceeding five-years, subject only to the payment of specified premiums;

(b) a policy in which the minimum premium at any future duration beyond the end of the fifth policy year is less than the corresponding one-year valuation premium, calculated using the maximum valuation interest rate and the 1980 CSO valuation tables with or without ten-year select mortality factors, or any other table adopted after the effective date of this rule by the NAIC and promulgated by rule by the commissioner for this purpose; or

(c) a policy with any combination of (a) and (b).

(2) A secondary guarantee period is the longest period for which the policy is guaranteed to remain in force subject only to a secondary guarantee. Secondary guarantees that are unilaterally extended by the insurer after issue shall be considered to have been made at issue. Reserves described in Subsections B and C below must be recalculated from issue to reflect the extensions.

(3) Specified premiums mean the premiums specified in the policy, the payment of which guarantees that the policy will remain in force at the original schedule of benefits, but which otherwise would be insufficient to keep the policy in force in the absence of the guarantee if maximum mortality and expense charges and minimum interest credits were made and any applicable surrender charges were assessed.

(4) For purposes of this section, the minimum premium for any policy year is the premium that, when paid into a policy with a zero account value at the beginning of the policy year, produces a zero account value at the end of the policy year. The minimum premium calculation must use the policy cost factors, including mortality charges, loads and expense charges, and the interest crediting rate, which are all guaranteed at issue.

(5) The one-year valuation premium means the net one-year premium based upon the original schedule of benefits for a given policy year. The one-year valuation premiums for all policy years are calculated at issue. The select mortality factors defined in Subsections 5A(2), 5A(3), 5A(4), 5B(2), 5B(3), and 5B(4) may not be used to calculate the one-year valuation premiums.

B. Basic Reserves for the Secondary Guarantees.

Basic reserves for the secondary guarantees shall be the segmented reserves for the secondary guarantee period. In calculating the segments and the segmented reserves, the gross premiums shall be set equal to the specified premiums, if any, or otherwise to the minimum premiums, that keep the policy in force and the segments will be determined according to the contract segmentation method as defined in Subsection 4C.

C. Deficiency Reserves for the Secondary Guarantees.

Deficiency reserves, if any, for the secondary guarantees shall be calculated for the secondary guarantee period in the same manner as described in Subsection 6B with gross premiums set equal to the specified premiums, if any, or otherwise to the minimum premiums that keep the policy in force.

D. Minimum Reserves.

The minimum reserves during the secondary guarantee period are the greater of:

(1) the basic reserves for the secondary guarantee plus the deficiency reserve, if any, for the secondary guarantees; or

(2) the minimum reserves required by other rules or rules governing universal life plans.

**KEY: insurance**
**February 24, 1997**
**31A-17-402**

**31A-17-512**

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